

Internal UPS

Uninterruptible Power System

User's Manual

SI-300/500/550

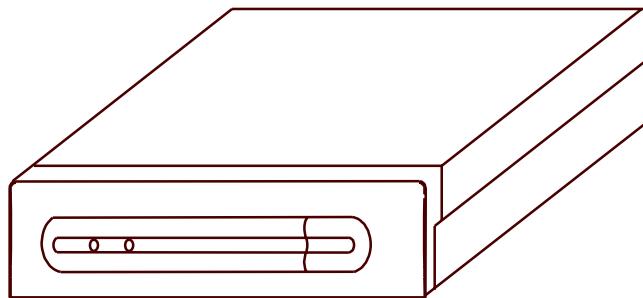


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1. INTRODUCTION

This is a high performance with compact shape stand-by Uninterruptible Power Supply (UPS) designed to protect your computer from utility line failure. In the event of utility failure (blackout), the UPS will rapidly transfer loads to an alternative power source, which derives power from battery set inside the UPS. The backup time for a Pentium IV including 17"SVGA monitor is about 8 minutes with internal UPS model 300, about 17 minutes with model 500, and about 18 minutes with model 550.

2. MAIN FEATURE

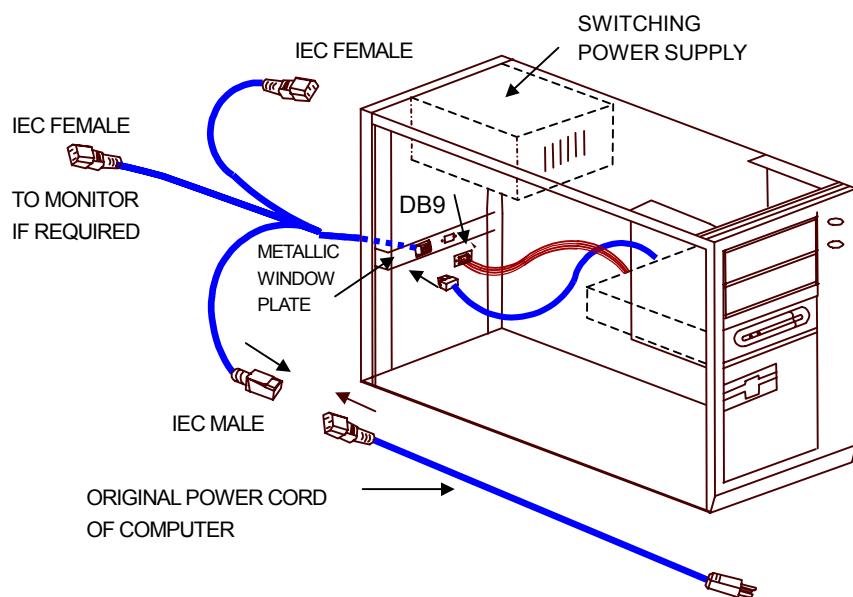
- * Microprocessor based design.
- * 'Green power' design with auto on/off function.
- * Suitable for 5 1/4" disk size.
- * Protection for over-load & short circuit.
- * Easy installation.

3. CAUTION

- * The UPS is suitable for personal computer & workstation only; and is to be installed inside a computer case.
- * After installation, please make sure that the maximum power requirement is not over the rated capacity of the UPS. Red LED will be lighting and alarm will beep if the load is close to the rated value. Meantime, if the overload is severe, the UPS will shut down immediately when a blackout happens for protecting UPS itself.
- * The UPS is shipped from the factory with fully charged internal batteries; however, the batteries may lose some energy during delivery and storage. To ensure that the UPS will provide the expected run-time, the UPS must be charged for at least 12 hours before your first use. Please simply turn on the UPS after installation when city power is normal, and the batteries will be charged automatically.

4. INSTALLATION (Please also refer to the following drawing)

- 4.1 Fix the metallic window plate on the rear panel of your computer case.
- 4.2 Plug the connector of the enclosed "Y" type power cord into the window plate.
- 4.3 Plug the connector of the power cord from the UPS with the matching connector of "Y" power cord.
- 4.4 The "Y" power cord has 2 outlets for your computer and monitor. To ensure that your computer will be protected during a utility failure, the outlets of UPS must be connected with your computer and monitor, and apply the original power cord of your computer as the input cord of the UPS. When the connection is completed. The UPS can be turned on by one touch at the control button on the front panel.



5. TESTING YOUR UPS

- 5.1 Please have the UPS charged for 12 hours before test.

(Do not have to turn on your computer, just keep the city power connected to the UPS and turn on your UPS – green LED will be on.)

- 5.2 In normal mode of UPS, turn on your computer, and push the UPS button on the front panel for self-test. If it is OK, green LED will be on. While if it is over loaded, the UPS will alarm. Or if the battery level is low, it will emit quick beep for several seconds and stay in normal mode for recharging.

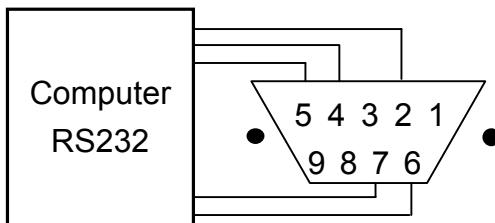
Please also refer to the, "LED/Alarm Indication" in item 7.5.

- 5.3 Push the button for 4sec, and check if the UPS can be turned-off manually.
- 5.4 Push the button again to turn on the UPS; then, UPS will enter stand-by status, and finish the test.

6. ERROR MESSAGE OF THE TEST

- 6.1 During the test, if the UPS emits a quick beep, it means the battery level is low. Please leave the UPS in normal mode for at least 10 hours, and the batteries will be fully charged.
- 6.2 If the UPS emits a continuous beep during the test, it may be in an overload situation. The over load may result in an unexpectedly short runtime during a blackout. Please turn off the computer and check if any equipment can be removed from the UPS.
- 6.3 If the UPS emits a continuous urgent beep for 12 seconds after test, it means that the batteries are no good and may need replacement.
- 6.4 Since the UPS is made with frequency auto-select function. Either 50Hz or 60Hz of your city power, the UPS will detect it, and apply the same frequency in operation. However, if the frequency of city power is abnormal, outside the range 47 – 65Hz, the UPS will switch to backup mode for protecting your computer. (Even the city power voltage is O.K.)
- 6.5 LED/Alarm Indication:
 - * Green LED, no alarm _____ City power normal.
 - * Red LED flashing, slow beeping, 2 beeps / 4 sec. _____ Backup mode.
 - * Red LED flashing, quick beeping, 4 beeps / sec _____ Low battery.
 - * Red LED flashing, urgent beeping, 8 beeps / sec _____ Battery Replacement
 - * Red LED flashing, long beep _____ Over load
 - (180W up --- Alarm & auto shut down in 30 sec.)
 - (230W up --- Auto shut down immediately)
 - * Red LED flashing, one beep / 4 sec. _____ No load (auto shut down after 30 sec.)
- ※ If any abnormal condition occurs, and the item 5.3 can not be executed, you will need to reset your UPS. Please push the button for at least 10 sec. to shut down the UPS, and to push the button again to re-start the UPS.

7. COMPUTER INTERFACE PORT



Pin2 : AC Power Failure

Pin4 : Common GND of Pin2 & Pin5

Pin5 : UPS Battery Low

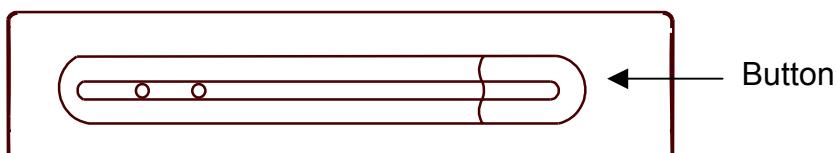
Pin6 : Turn off UPS

Pin7 : GND of Pin6

The computer interface port is diagramed above for your reference. Use Pin4 as the common of Pin2 and Pin5, Pin2 and Pin4 will become close loop from open when the utility is fail, Pin5 and Pin4 will become close loop from open when the battery level is low.

The UPS will shut down when the high level signal from RS-232, sustained for 3 seconds, is applied between Pin6 and Pin7.

8. BUTTON FUNCTION ON FRONT PANEL



Pushing when in normal mode ----- Self test

Pushing when in backup mode ----- Alarm reset (silence)

Pushing for 4 sec. in any mode ----- Power off manually

9. SPECIFICATION:

Internal UPS	MODEL		
	SI-300	SI-500	SI-550
	(Hi Frequency)		
CAPACITY (Computer Load)	300VA		
Max. Load recommended	< 180W	< 100W	< 150W
INPUT	Voltage	100V/110V/115V/220V/230V/240V ± 15%	
	Frequency	50Hz/60Hz Auto detect	
OUTPUT	Voltage	100V/110V/115V/220V/230V/240V ±5% for Back-up Mode	
	Frequency	50Hz or 60Hz ± 0.1Hz	
	Wave Form	Simulated Pseudo Sine Wave	
Runtime of one set of P.C. (Including 17" SVGA monitor)	8 min. Typical	17 min. Typical	18 min. Typical
TRANSFER TIME	4ms Typical.		
BATTERY	Maintenance Free		
	Lead-Acid	Ni-MH	
	6V 3.3Ah x 2pcs	1.2V 3.8Ah x 11pcs	1.2V 3.5Ah x 11pcs
	Recharge Time	Approx. 8 hrs to 90%	Approx. 16 hrs to 90%
LED/ALARM INDICATION	GRN LED, No Beep.		
	Normal/In charge		
	RED LED Flashing, 2 Beeps / 4 sec.		
	Back up / Abnormal Input Voltage		
	RED LED Flashing,1 Beep / 4 sec. (Auto off in 30 sec.)		
	Power Saving (When No Load)		
	RED LED Flashing, 4 Beeps / sec.		
	Low Battery		
Battery Replacement	RED LED Flashing, 8 Beeps/ sec.		
	Over Load/Fault		
	RED LED Flashing, Continuous Beep.		
Abnormal Input Frequency (Back up)	RED LED Flashing, No Beep.		
OPERATION TEMP.	0-40°C		
OPERATION HUMIDITY	30-95% Non-Condensing		
DIMENSIONS (L*H*W)	242 x 144 x 40 (mm)	172 x 144 x 40 (mm)	210 x 144 x 40 (mm)
WEIGHT (N.W./G.W. KG)	3 / 3.5 (kgs)	2.5 / 3.0 (kgs)	2.7 / 3.0 (kgs)

10. IMPORTANT SAFETY INSTRUCTIONS

- When replacing the batteries, use the same number and the same type of batteries.
- Do not dispose of batteries in a fire; the battery may explode.
- Do not open or mutilate the battery or batteries, released electrolyte is harmful to the skin and eyes.
- A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed when working on batteries.
 - * Remove watches, rings or other metal objects.
 - * Use tools with insulated handles.
- To prevent an overbalance of this unit, with the installation the additional stabilizer are to mount at the bottom side.
- This unit is to be installed by service personnel.
- The equipment can be operated by any individual with no previous experience.
- "The socket-outlet shall be installed near the equipment and easily accessible."
- "With the installation of this equipment it should be prevented, that the sum of the leakage current of the UPS and the connected consumer does not exceed 3.5mA."
- Attention, hazardous through electric shock. Also with disconnection of this unit from the main, hazardous voltage still may be accessible through supply from battery.
- The battery supply should be therefore disconnected in the plus and minus pole through the from the outer enclosure accessible battery fuses when maintenance or service work inside the UPS is considered.
- The lead acid battery may cause chemical hazard.
- The battery presents a risk of electric shock and energy hazard.
- Batteries are to be disposed by the manufacturer or importer. Customers need to send them back with no charge for disposal.
- Electrical hazard, the discharge time is about 5 min.

German wording:

- Wenn Sie die Batterien austauschen, verwenden Sie bitte die gleiche Anzahl und den gleichen Batterietyp.
- Werfen Sie niemals die Batterien in das Feuer, die Batterien könnten explodieren.
- Öffnen oder beschädigen Sie nicht die Batterien, ausfließendes Elektrolyt ist schädlich für Haut und Augen.
- Eine Batterie kann eine Gefahr eines elektrischer Schläges und sehr großer Kurzschlußströme beinhalten. Folgende Vorkehrungen sollten getroffen werden, wenn Sie mit der Batterie arbeiten.
 - * Entfernen Sie Uhren, Ring and andere metallische Objekte.
 - * Verwenden Sie Werkzeug mit isolierten Griffen.
- Um ein Umkippen dieses Gerätes zu verhindern, sind mit der Installation dieses Gerätes die zugänglichen Stützen an der Unterseite dieses Gerätes anzubringen.
- Dieses Gerät ist durch Elektrofachkräfte zu installieren.
- Bedienung durch jedermann ohne dem Vorkenntnisse.
- "Die Steckdose muß nahe dem Gerät angebracht und leicht zugänglich sein."
- "Bei der Installation dieses Gerätes ist darauf zu achten, daß die Summe der Ableitstöme der USV und der angeschlossenen Verbraucher den Maximalwert von 3.5mA nicht überschreiten."
- "Vorsicht, Gefahr durch elektrischen Schlag. Auch nach Trennung von der Netzeingangsspannung werde Teile innerhalb der USV von der Batterie gespeist und führen gefährliche Spannung."
- Bei Instandhaltungsarbeiten ist daher die Versorgung durch die Batterie an den von außen zugänglichen Sicherungshaltern in beiden Polen zu unterbrechen."
- Die Blei-Akkumulatoren können bei unsachgemäßer Handhabung chemische Gefahren hervorrufen.
- Die Batterie birgt eine Gefahr eines elektrischen Schläges und sehr hoher Kurzschlußströme.
- Batterien werden durch den Hersteller oder Importeur entsorgt. Dazu müssen die Batterien kostenfrei angeliefert werden.
- Gefahr durch elektrischen Schlag, die Entladzeit dieser Kondensatoren beträgt 5 min.